

I Claim:

1. A method of making a prescription optical device, having a predetermined prescription when curved to a predetermined arched shape, comprising a prescription saw-toothed surface zone, having plurality of discontinuities, comprising the steps of:
 - 5 a) calculating the surface heights of the arched prescription surface zone in accordance with said predetermined prescription,
 - b) transforming said surface heights of said arched surface to surface heights of a flat surface.
2. The method of claim 1, further comprising the steps of:
 - a) checking whether a predetermined condition for having a surface discontinuity is fulfilled,
 - 10 b) repeating the process when said predetermined condition is fulfilled.
3. The method of claim 1, wherein said predetermined condition for having a surface discontinuity is the height of said discontinuity, the microscopic shape of the surface, the viewed geometric pattern made by said discontinuities, a diffraction consideration, quality of the formed image, cosmetic factors, grinding technique, manufacturing technique, surface durability, tolerance budgeting methods.
- 15 4. The method of claim 1, wherein the calculation of said arched surface heights comprises:
 - a) calculating microscopic normals to said arched surface, whereby said microscopic normals produce the required prescription,
 - b) calculating the surface heights of said arched surface from said calculated microscopic normals.
- 20 5. The method of making a prescription saw-toothed surface zone according to claim 1, wherein said plurality of discontinuities are protected by protective means.
6. The method of making the prescription optical device according to claim 1, wherein said prescription optical device is an ophthalmic lens.
- 25 7. The method of making a prescription optical device according to claim 1, wherein said prescription optical device is made as a mirror.
8. The method of making a prescription saw-toothed surface zone according to claim 1, comprising the further step of utilizing a numerically controlled machining operation, which uses said calculated surface heights, for manufacturing said flat surface zone.
- 30 9. The method of making a prescription saw-toothed surface zone according to claim 1, comprising the further step of utilizing a numerically controlled machining operation, which uses said calculated surface heights with the required changes, for manufacturing a mold used in making said flat surface zone.
10. The method of claim 9, wherein said mold is assembled from a plurality of different power and eye-pass mold-segments, that are bonded and made to fit together, wherein said mold-segments may be separated and reused with the same segments or with other appropriate segments.
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11. The method of making a prescription optical device according to claim 1, wherein said prescription optical device is formed of a not fragile organic material that is sufficiently thin and soft to enable cutting by a simple cutting means.
12. The method of making a prescription optical device according to claim 1, wherein said prescription saw-toothed surface zone is made of a first material and said prescription optical device further comprising a second material.
13. The method of claim 12, wherein the combination of said first and second materials correct aberrations of said prescription optical device.
14. The method of making a prescription optical device according to claim 1, wherein said prescription optical device is a laminated optical device having at least one anterior optical element having a first corrective feature and at least one posterior optical element having a second corrective feature, comprising:
- at least one anterior or posterior optical element made according to claim 1,
 - joining said anterior and posterior optical elements by bonding means, wherein, when joined and curved, form a laminated optical device having said required prescription.
15. A method of changing at least one optical characteristic of an arched optical device by means of bonding or attaching or securing or joining to said arched optical device at least one prescription optical-element having at least one surface zone made according to claim 1 that is designed, after curving, to substantially match an appropriate surface zone of said arched optical device.
16. The method of claim 15 wherein said arched optical device is an eyewear and said optical-element is an ophthalmic lens.
17. The method of claim 15, wherein said surface zone made according to claim 1 is protected by protective means.
18. The method of claim 15, wherein said optical-element is bonded to said arched optical device by using adapting or converting means.
19. The method of claim 15, wherein the surface that has to be bonded to said arched optical device is backed with an adhesive and said adhesive is being protected by a removable non-adhesive sheet.
20. An optical device having at least one saw-toothed surface zone comprising saw-teeth, characterized by the fact that it can be curved to become a prescription optical device, and after curving said optical device to a predetermined shape, the principal curvatures and the principal curvatures directions are such that the light rays are refracted according to a required predetermined prescription.
21. The prescription optical device of claim 20, wherein said saw-teeth are arranged according to the height of said saw-teeth, the microscopic shape of said saw-teeth, the viewed geometric pattern

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22. The prescription optical device of claim 20, wherein said optical device is a protected optical device.
- 5 23. The prescription optical device of claim 20, wherein said optical device is made as an ophthalmic lens.
24. The prescription optical device of claim 20, wherein said optical device is made as a mirror.
25. The optical device of claim 20, wherein said optical device is a laminated arched optical device having at least one anterior optical element having a first corrective feature and at least one posterior optical element having a second corrective feature, comprising:
- 10 a) at least one anterior or posterior optical element made according to claim 20,
- b) said anterior and posterior optical elements are connected by bonding means, wherein, when connected and curved, form a laminated arched optical device having said predetermined prescription.
- 15 26. A prescription ophthalmic lens having at least one saw-toothed surface zone comprising saw-teeth, characterized by the fact that after curving said ophthalmic lens to a predetermined arched shape, for almost every intersection of said saw-tooth surface with a viewing-angle, the curvatures and the curvatures directions are such that the prescription of said arched ophthalmic lens and the disorder of the eye to be corrected are substantially individually corrected and adapted to each other as to direction and extent.
- 20 27. The ophthalmic lens of claim 26 wherein said curvatures are the principal curvatures and said curvatures directions are the principal curvatures directions.
28. The ophthalmic lens of claim 26, wherein said ophthalmic lens is a protected ophthalmic lens.
- 25 29. The ophthalmic lens of claim 26, further comprising at least one surface zone, which ^{does} ~~does~~ not necessarily have to be folded or curved, that is made according to smooth prescription ophthalmic lens specifications and not according to claim 26.
30. The ophthalmic lens of claim 26, wherein, after curving said ophthalmic lens, one of said ophthalmic lens surfaces is substantially matching to a surface zone of an arched eyewear.
31. The ophthalmic lens of claim 26, wherein said ophthalmic lens is formed of a not fragile organic material that is sufficiently thin and soft to enable cutting by a simple cutting means.
- 30 32. The ophthalmic lens of claim 26, wherein said saw-toothed surface is formed of a first material and said ophthalmic lens furthers comprising a second material.
33. The prescription ophthalmic lens of claim 26, wherein said ophthalmic lens is a laminated prescription ophthalmic lens having at least one anterior optical element having a first corrective feature and at least one posterior optical element having a second corrective feature, comprising:
- 35 a) at least one anterior or posterior optical element made according to claim 31,

34. The anterior and posterior optical elements of claim 33, wherein, before connecting said optical
5 elements, at least one of said anterior and posterior optical elements is backed with an adhesive
and a removable non-adhesive sheet is protecting said adhesive.

36. A mold to make a prescription optical device, wherein said prescription optical device is characterized by having at least one flat saw-toothed surface zone, and wherein said flat saw-toothed surface zone is characterized by the fact that the required prescription is obtained when said optical device is folded or curved to a predetermined shape.